Topic 28 to 29

Test ID: 8450994

Question #1 of 8

Question ID: 438996

The midsquare technique was one of the first pseudorandom number generators. What are the next two random numbers in a sequence of random numbers between 0 and 1 that is created using the midsquare technique with a seed number of 5236?

A) 1st = 0.4156; 2nd = 0.2723.

B) 1st = 0.6325; 2nd = 0.6514.

C) 1st = 0.2741; 2nd = 0.7153.

D) 1st = 0.5696; 2nd = 0.4416.

Question #2 of 8

Question ID: 439003

GARCH(1,1) (generalized autoregressive conditional heteroskedastic) models of volatility may be useful for option traders because they:

A) are used in the Black-Scholes option pricing model.

B) provide efficient estimates of past volatility.

C) are useful in forecasting future volatility

D) are the simplest volatility models to estimate.

Question #3 of 8

Question ID: 439001

Consider the following four GARCH equations:

> Equation 1: $\sigma^2_n = 0.83 + 0.05\mu^2_{n-1} + 0.93\sigma^2_{n-1}$
>
> Equation 2: $\sigma^2_n = 0.06 + 0.04\mu^2_{n-1} + 0.95\sigma^2_{n-1}$
>
> Equation 3: $\sigma^2_n = 0.60 + 0.10\mu^2_{n-1} + 0.94\sigma^2_{n-1}$
>
> Equation 4: $\sigma^2_n = 0.03 + 0.03\mu^2_{n-1} + 0.93\sigma^2_{n-1}$

Which of the following statements regarding these equations is (are) **CORRECT**?

> I. Equation 1 is a stationary model.
>
> II. Equation 2 shows no mean reversion
>
> III. Volatility will revert to a long run mean level faster with Equation 1 than it will for Equation 4.
>
> IV. Volatility will revert to a long run mean level faster with Equation 3 than it will for Equation 2.

A) III only.

B) II and IV only.

C) I only.

D) II and III only.

Question #4 of 8

Question ID: 438995

There are four major advantages of simulation modeling when multiple input variables and compounding distributions are involved. Which of the following statements correctly identifies one of these advantages? Simulation models:

A) can easily examine effects on input variables when changing strategies or scenarios.

B) allow for correlations between output variables.

C) create visible output probability distributions that can be analyzed when compounding probability distributions result from multiple input variables.

D) simplify complex functions when the probability distribution of the output variable is identified.

Question #5 of 8

Question ID: 438997

Which of the following statements is incorrect regarding the use of historical data and weighting schemes to estimate volatility?

A) If an analyst's goal is to estimate the current level of volatility, she may want to weight recent data more heavily.

B) An example of a volatility estimation weighting scheme is to assume a long-run variance level in addition to weighted squared return observations.

C) Straightforward volatility estimation approaches weight each observation equally in that more distant past returns have the same influence on estimated volatility as observations that are more recent.

D) The volatility estimate from an autoregressive conditional heteroskedasticity model is a function of a short-run variance level and a series of squared variance observations.

Question #6 of 8

Question ID: 439004

Traditional covariance calculations assume that all past observations receive the same weighting. One alternative is to apply differential weightings to past observations and create GARCH-type models to take into account the time variability of covariance. Which of the following statements is true regarding these alternative covariance calculations?

I. If one uses a particular weighting scheme for variance calculations, one should use the same weighting scheme for the covariance calculations.

II. If one uses a particular weighting scheme variance calculations, one should use a different weighting scheme for the covariance calculations.

A) Neither I nor II.

B) I only.

C) II only.

D) Both I and II.

Question #7 of 8

Question ID: 438999

A portfolio manager is using an exponentially weighted moving average (EWMA) model to forecast volatility for a particular market parameter. What is the implication of an EWMA weighting parameter value of 0.84?

A) More information is required to determine the implication.

B) A greater weight is placed on the previous volatility estimate than on the most recent change in parameter value.

C) An equal weight is placed on the previous volatility estimate as on the most recent change in parameter value.

D) A greater weight is placed on the most recent change in parameter value than on the previous volatility estimate.

Question #8 of 8

Question ID: 439000

You estimate the following GARCH model:

> $\sigma^2_n = 0.04 + 0.30\mu^2_{t-1} + 0.50\sigma^2_{n-1}$

If the most recent volatility estimate and error term are 0.15 and 0.02, respectively, the long-run average variance is *closest* to:

A) 0.04.

B) 0.23.

C) 0.20.

D) 0.16.